

US-PAT-NR: 5980937

DOCUMENT-IDENTIFIER: US 5980937 A

TITLE: Liposomes with enhanced entrapment capacity and their use in imaging

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The evaporation of the organic solvent or the mixture of solvents is carried out at above ambient temperatures or reduced pressure or both. Experiments have shown that the rate of evaporation has a strong influence on the degree of expansion of the lipid structure. Hence for optimal expansion, one will appropriately control the amount of heat and the pressure within the reactor. The control becomes particularly important near the end of solvent evaporation, i.e. when the solution thickens and becomes viscous. At this point, a slight reduction of pressure will result in a relatively fast expansion (foaming). It has been established that by balancing the temperature and pressure for a given solvent or solvent mixture different degrees of expansion of the lipid deposit may be achieved. Best results are obtained when the organic solvent is selected from petroleum ether, chloroform, methanol, ethanol, propanol, isopropanol, n-butanol, tert-butanol, pentanol, hexanol, pentane, hexane, heptane, cyclohexane and mixtures thereof. Preferably the solvent is an azeotropic mixture of two solvents. Good results have been obtained with azeotropic mixtures of ethanol with cyclohexane, chloroform with methanol and isopropanol with hexane.

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TITLE: Pervaporation apparatus and method

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Even mixtures such as azeotropes can be effectively separated by pervaporation, which is not possible utilizing thermodynamic vapor-liquid equilibria, such as in distillation processes. Numerous mixtures, e.g. water and ethanol, water and isopropanol, chloroform and hexane, water and tetrahydrofuran, water and dioxane, methanol and acetone, methanol and benzene, methanol and methylacetate, ethanol and ethylacetate, ethanol and cyclohexane, and butanol and heptane, which vaporize azeotropically when certain concentration limits are reached, can be separated by pervaporation.

US-PAT-NC: 6241710

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TITLE: Hypodermic needle with weeping tip and method of use

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Preferably, the porous distal portion of the catheter is made of a flexible porous polymer, such as a porous polyimide, polyethylene, polytetrafluoroethylene, or polypropylene, and the like. The porous distal portion may further have features that create increasing hydraulic impedance on injectate moving therethrough towards the needle, thereby causing uniform flow of the injectate therefrom along the length of the porous distal portion as the injectate moves therethrough towards the needle to offset the falling off of injection pressure on fluid as it moves towards the point of the device. The flexibility of the porous segment in the assemblage facilitates injection of medicaments along a non-linear path.

*Amend 10/16/96*